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(54) Title: **ENHANCED ENGINEERED CHROMOSOME FORMATION FROM ALPHA SATELLITE WITH ARTIFICIALLY INCREASED DENSITY OF CENP-B BOXES**

(57) Abstract: The invention relates to the discovery that the distribution of CENP-B boxes on the alpha-satellite DNA affects efficiency of the centromere and thereby, affects efficiency of chromosome formation. Therefore, engineered chromosome vectors with altered distribution of CENP-B boxes are described that can alter the rate of chromosome formation as desired. Engineered HORs, chromosome vectors, and chromosomes as well as methods of making the same are described and claimed.

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